~~09567063~~ 09/836,704

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=> file biosis medline caplus wpids uspatfull
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*** YOU HAVE NEW MAIL ***

=> s mobility modif? and phosphor?
L1 54 MOBILITY MODIF? AND PHOSPHOR?

=> s l1 and polyalkylene oxide
L2 2 L1 AND POLYALKYLENE OXIDE

=> d l2 bib abs 1-2

L2 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2003 ACS
AN 2002:814370 CAPLUS
DN 137:334001
TI **Polyalkylene oxide**-modified oligonucleotides and their use in hybridization, amplification, and sequencing
IN Woo, Sam L.; Graham, Ron; Tian, Jing
PA PE Corporation (NY), USA
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002083954	A1	20021024	WO 2002-US11824	20020415
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	US 2002182602	A1	20021205	US 2001-836704	20010416
PRAI	US 2001-836704	A	20010416		

OS MARPAT 137:334001

09567863

AB The present invention relates generally to nucleic acid functionalizing reagents, to **mobility-modified** sequence-specific nucleic acids, to compns. comprising a plurality of **mobility-modified** sequence-specific nucleic acids, and to the use of such nucleic acids and compns. in a variety of assays, such as, for example, for the detection of a plurality of selected nucleotide sequences within one or more target nucleic acids. The **mobility-modifying** reagents of the present invention comprise polyoxyalkylene **phosphoramidites** which can be joined to other **mobility-modifying** monomers and to sequence-specific nucleic acids via uncharged phosphate triester linkages. Addn. of the **mobility-modifying phosphoramidite** reagents of the present invention to oligonucleotides results in unexpectedly large effects on the mobility of those modified oligonucleotides, esp. upon capillary electrophoresis in non-sieving media. Thus, a 15-residue deoxyribo-oligonucleotide tagged on the 5'-terminus with fluorescein linked to HO(CH2CH2O)5P(:O)(OEt)O(CH2CH2O)5P(:O)(OEt)- and on the 3'-terminus with PEG 5000 was used in an invader assay to detect SNPs in the human tumor necrosis factor .alpha. gene.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L2 ANSWER 2 OF 2 USPATFULL
AN 2002:322438 USPATFULL
TI **Mobility-modified** nucleobase polymers and methods of using same
IN Woo, Sam L., Redwood City, CA, UNITED STATES
Graham, Ron, San Ramon, CA, UNITED STATES
Tian, Jing, Mountain View, CA, UNITED STATES
PI US 2002182602 A1 20021205
AI US 2001-836704 A1 20010416 (9)
DT Utility
FS APPLICATION
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
CLMN Number of Claims: 60
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 3548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates generally to nucleobase polymer functionalizing reagents, to **mobility-modified** sequence-specific nucleobase polymers, to compositions comprising a plurality of **mobility-modified** sequence-specific nucleobase polymers, and to the use of such polymers and compositions in a variety of assays, such as, for example, for the detection of a plurality of selected nucleotide sequences within one or more target nucleic acids. The **mobility-modifying** polymers of the present invention include **phosphoramidite** reagents which can be joined to other **mobility-modifying** monomers and to sequence-specific oligonucleobase polymers via uncharged phosphate triester linkages. Addition of the **mobility-modifying phosphoramidite** reagents of the present invention to oligonucleobase polymers results in unexpectedly large effects the mobility of those modified oligonucleobase polymers, especially upon capillary electrophoresis in non-sieving media.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

=> d his

(FILE 'HOME' ENTERED AT 08:47:52 ON 15 JAN 2003)

09567863

FILE 'BIOSIS, MEDLINE, CAPLUS, WPIDS, USPATFULL' ENTERED AT 08:48:13 ON 15 JAN 2003
L1 54 S MOBILITY MODIF? AND PHOSPHOR?
L2 2 S L1 AND POLYALKYLENE OXIDE

=> s l1 and oligo?
L3 49 L1 AND OLIGO?

=> dup rem l3
PROCESSING COMPLETED FOR L3
L4 46 DUP REM L3 (3 DUPLICATES REMOVED)

=> s l4 and label?
L5 43 L4 AND LABEL?

=> s l5 and polyethylene?
L6 34 L5 AND POLYETHYLENE?

=> d l6 bib abs 1-34

L6 ANSWER 1 OF 34 WPIDS (C) 2003 THOMSON DERWENT
AN 2002-519262 [55] WPIDS
DNC C2002-146897
TI New atropsiomers of asymmetric xanthine compounds useful as **labels** in various molecular biology applications for substrates e.g. nucleotide.
DC B02 B04 D16
IN LEE, L G; ROSENBLUM, B B; TAING, M C; ROSEMBLUM, B B
PA (PEKE) PE CORP NY
CYC 96
PI WO 2002036832 A2 20020510 (200255)* EN 89p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2002030914 A 20020515 (200258)
US 6448407 B1 20020910 (200263)
ADT WO 2002036832 A2 WO 2001-US48654 20011030; AU 2002030914 A AU 2002-30914 20011030; US 6448407 B1 US 2000-704966 20001101
FDT AU 2002030914 A Based on WO 200236832
PRAI US 2000-704966 20001101
AN 2002-519262 [55] WPIDS
AB WO 200236832 A UPAB: 20020829
NOVELTY - Atropisomer of asymmetric xanthine compounds (I) are new.
DETAILED DESCRIPTION - Atropisomer of xanthine compounds of formula (I) including aryl-substituted forms are new.
Z1 = OH, NH2, NHR or NR2;
R = H, 1-12C alkyl, phenyl, benzyl, aryl, heterocycle or a linking moiety;
Z2 = O, +NH2, +NHR or +NR2; and
X = carboxylate or sulfonate.
INDEPENDENT CLAIMS are also included for:
(1) an energy-transfer dye comprising a donor dye (a) capable of absorbing light at a first wavelength and emitting excitation energy in its response, an acceptor dye (b) capable of absorbing the excitation energy emitted by (a) and fluorescing at a second wavelength in response, and a linker (c) for linking (a) and (b). (a) and (b) are of formula (II). At least one of (a) and (b) is a pure atropisomer for xanthene compound;
(2) a **labeled** nucleoside or nucleotide of formula (III);
(3) a **labeled** polynucleotide (A') comprising polynucleotide

covalently attached to a **label** (compound (I)) or a polypeptide covalently attached to (I);

(4) a **phosphoramidite** compound of formula R30-N(R31)-P(OR32)-O-L'-DYE (IV);

(5) formation of a **labeled** substrate involving reacting a substrate selected from polynucleotide, nucleotide, nucleoside, polypeptide, carbohydrate, ligand, enantiomerically pure compound, particle or surface with a linker (preferably N-hydroxysuccinimide or **phosphoramidite**) to form **labeled** substrate;

(6) synthesizing **labeled** polynucleotide involving coupling the **phosphoramidite** to polynucleotide. The polynucleotide is bound to a solid support;

(7) method (A) of separating atropisomers of 11C aminomethyl, 19C carboxyl fluorescein involving reacting 11C aminomethyl, 19C carboxyl fluorescein with an active ester or carboxylic acid to form diastereomeric carbamate, separating the diastereomeric carbamate and hydrolyzing the separated diastereomer with aqueous acid;

(8) method (B) of separating mixture of **labeled** substrate comprising (I) or energy-transfer dye involving separating a mixture of **labeled** substrates by electrophoresis or chromatography and detecting the **labeled** substrate by fluorescence detection;

(9) generating a **labeled** primer extension product involving extending a primer-target hybrid with a nucleotide, where the primer or the nucleotide is **labeled** with (I) or energy-transfer compound;

(10) polynucleotide sequencing involving forming a mixture of first, second, third and a fourth class of polynucleotides and separating the polynucleotide on the basis of size. Each polynucleotide in the first class includes a 3'-terminal dideoxyadenosine and is **labeled** with a dye. Each polynucleotide in the second class includes a 3'-terminal dideoxycytidine and is **labeled** with a second dye. The polynucleotide in the third class includes a 3'-terminal dideoxyguanosine and is **labeled** with a third dye. The polynucleotide in the fourth class includes a 3'-terminal dideoxythymidine and is **labeled** with a fourth dye. At least one of first, second, third or fourth dye is compound (I) or the energy-transfer dye. The other dyes are spectrally resolvable from each other;

(11) **oligonucleotide** ligation involving annealing two probes to a target sequence and forming a phosphodiester bond between the 5' terminus of one probe and the 3' terminus of the other probe. At least one of the probe is **labeled** with (I) or the energy-transfer dye;

(12) fragment analysis involving separating **labeled** polynucleotide fragments by size-dependent separation process and detecting the separated-**labeled** polynucleotide fragments subsequent to the separation process. The fragments are **labeled** with (I) or energy-transfer dye;

(13) method of amplification involving annealing at least two primers to a target polynucleotide and extending the primers by polymerase and a mixture of nucleotides. At least one of the primers is a **labeled** polynucleotide (III) or (A');

(14) method of amplification involving annealing at least two primers and fluorescent dye-quencher probe to a target nucleic acid and extending the primers by polymerase and a mixture of nucleotides;

(15) a kit of **labeling** polynucleotide comprising compound including linking moiety or energy-transfer dye or **phosphoramidite** and a polynucleotide; and

(16) kit for generating **labeled** primer extension product comprising at least one nucleotide and a primer. The primer is **labeled** polynucleotide. At least one nucleotide is a **labeled** nucleotide.

Z', Z'2 = O, OH, NH2, NHR or NR2;

X' = X.

DYE = compound (I);

B = nucleobase;
L = linker;
R25 = H, monophosphate, diphosphate, triphosphate, thiophosphate or phosphate analog;
R26, R27 = H, HO, F or a moiety which blocks polymerase-mediated target-directed polymerization; or
R26+R27 = 2',3'-didehydroribose;
R30, R31 = 1-12C (cyclo)alkyl or aryl; or
NR30R31 = saturated nitrogen heterocycle;
R32 = phosphite ester protecting group;
L' = linker; and
n''' = 1-10.

USE - In molecular biology applications as labels for substances such as nucleotides, nucleoside, polynucleotide, polypeptide and carbohydrates and methods based on separation and detection of analytes. In methods utilizing fluorescent detection such as polymerase chain reaction amplification, DNA sequencing, antisense transcriptional and translational control of gene expression, genetic analysis and DNA probe-based diagnostic testing. For detecting differently labeled polynucleotides that have been subjected to biochemical separation procedure such as electrophoresis. As labels for chiral substrates. As labels on 5'-labeled oligonucleotide primer for the polymerase chain reaction and other nucleic acid amplification and selection method.

ADVANTAGE - (I) Is substantially stable, pure and atropisomerically-enriched. (I) Exhibits beneficial effects for methods requiring simultaneous detection of multiple spatially-overlapping analytes. (I) prevents unwanted hindrance to analysis when used as a label for chiral substrate.

Dwg.0/15

L6 ANSWER 2 OF 34 USPATFULL
AN 2003:10594 USPATFULL
TI Detection and treatment of polycystic kidney disease
IN Germino, Gregory G., Chevy Chase, MD, UNITED STATES
Watnick, Terry J., Chevy Chase, MD, UNITED STATES
Phakdeekitcharoen, Bunyong, Bangkok, THAILAND
PI US 2003008288 A1 20030109
AI US 2001-904968 A1 20010713 (9)
PRAI US 2000-218261P 20000713 (60)
US 2001-283691P 20010413 (60)
DT Utility
FS APPLICATION
LREP Lisa A. Haile, Ph.D., Gray Cary Ware & Freidenrich LLP, Suite 1600, 4365 Executive Drive, San Diego, CA, 92121-2189
CLMN Number of Claims: 67
ECL Exemplary Claim: 1
DRWN 2 Drawing Page(s)
LN.CNT 6566
AB Compositions useful for examining the PKD1 gene are provided. In addition, methods for detecting mutations of the PKD1 gene, which can be associated with autosomal dominant polycystic kidney disease in humans, are provided. Methods for diagnosing a mutant PKD1 gene sequence in a subject also are provided, as are methods of treating a subject having a PKD1-associated disorder.

L6 ANSWER 3 OF 34 USPATFULL
AN 2002:343923 USPATFULL
TI Catalytic amplification of multiplexed assay signals
IN Singh, Sharat, San Jose, CA, UNITED STATES
PI US 2002197649 A1 20021226
AI US 2002-154641 A1 20020524 (10)

09567863

PRAI US 2001-340652P 20011212 (60)
US 2001-293821P 20010526 (60)
DT Utility
FS APPLICATION
LREP ACLARA BIOSCIENCES, INC., 1288 PEAR AVENUE, MOUNTAIN VIEW, CA, 94043
CLMN Number of Claims: 44
ECL Exemplary Claim: 1
DRWN 9 Drawing Page(s)
LN.CNT 3560
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods, compositions, kits, and a system are disclosed for detecting one or more analytes in a sample. A mixture comprising the (i) sample, (ii) a first binding reagent comprising a cleavage-inducing moiety and a first binding agent specific for an analyte, and (ii) one or more electrophoretic probes each having a second binding agent is subjected to conditions under which binding of respective binding agents occurs. The interaction between the binding agents and the analyte brings the cleavage-inducing moiety within a proximity effective for cleaving a cleavable linkage tethering an electrophoretic tag to the second binding agent, thereby releasing the tag for electrophoretic separation. Separation of different tags occurs by virtue of their distinct electrophoretic mobilities. After separation, a signal amplification moiety on each tag is activated to generate a signal to indicate the presence of a particular analyte in the sample.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 4 OF 34 USPATFULL
AN 2002:322438 USPATFULL
TI **Mobility-modified** nucleobase polymers and methods of using same
IN Woo, Sam L., Redwood City, CA, UNITED STATES
Graham, Ron, San Ramon, CA, UNITED STATES
Tian, Jing, Mountain View, CA, UNITED STATES
PI US 2002182602 A1 20021205
AI US 2001-836704 A1 20010416 (9)
DT Utility
FS APPLICATION
LREP PENNIE AND EDMONDS, 1155 AVENUE OF THE AMERICAS, NEW YORK, NY, 100362711
CLMN Number of Claims: 60
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 3548
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The present invention relates generally to nucleobase polymer functionalizing reagents, to **mobility-modified** sequence-specific nucleobase polymers, to compositions comprising a plurality of **mobility-modified** sequence-specific nucleobase polymers, and to the use of such polymers and compositions in a variety of assays, such as, for example, for the detection of a plurality of selected nucleotide sequences within one or more target nucleic acids. The **mobility-modifying** polymers of the present invention include **phosphoramidite** reagents which can be joined to other **mobility-modifying** monomers and to sequence-specific **oligonucleobase** polymers via uncharged phosphate triester linkages. Addition of the **mobility -modifying phosphoramidite** reagents of the present invention to **oligonucleobase** polymers results in unexpectedly large effects the mobility of those modified **oligonucleobase** polymers, especially upon capillary electrophoresis in non-sieving media.

09567863

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 5 OF 34 USPATFULL
AN 2002:276194 USPATFULL
TI PNA-DNA chimeric probe arrays and methods of use
IN Egholm, Michael, Woodbridge, CT, United States
Chen, Caifu, Palo Alto, CA, United States
PA PE Corporation, Foster City, CA, United States (U.S. corporation)
PI US 6469151 B1 20021022
US 2002177133 A1 20021128
AI US 2001-881557 20010614 (9)
RLI Continuation of Ser. No. US 1999-416003, filed on 8 Oct 1999, now patented, Pat. No. US 6297016
DT Utility
FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Andrus, Alex
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN 21 Drawing Figure(s); 19 Drawing Page(s)
LN.CNT 1511
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides methods, kits, and compositions for ligation of PNA-DNA chimeric probes and **oligonucleotides** when they are hybridized adjacently to template nucleic acids using ligases and ligation reagents. Structural requirements of the chimeras for ligation include 5 to 15 contiguous PNA monomer units, 2 or more contiguous nucleotides, and a 3' hydroxyl or 5' hydroxyl terminus. The chimera and/or **oligonucleotide** may be **labelled** with fluorescent dyes or other **labels**. The methods include, for example, **oligonucleotide**-ligation assays (OLA) and single nucleotide polymorphism detection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 6 OF 34 USPATFULL
AN 2002:268888 USPATFULL
TI Sulfonated [8,9] benzophenoxazine dyes and the use of their **labelled** conjugates
IN Yan, Xiongwei, Dublin, CA, United States
Yuan, Pau Miau, San Jose, CA, United States
PA Applera Corporation, Foster City, CA, United States (U.S. corporation)
PI US 6465644 B1 20021015
AI US 2000-564417 20000502 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Raymond, Richard L.
LREP Andrus, Alex
CLMN Number of Claims: 41
ECL Exemplary Claim: 1
DRWN 12 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 1731
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Fluorescent, sulfonated 3,7-diamino-[8,9]benzophenoxazine dyes are provided that are especially useful for **labelling** biopolymers and other substrates. The dye-**labelled** conjugates can be used in a variety of contexts, including cell surface assays employing intact, live cells and in nucleic acid detection methods. The new dyes are water soluble and can be conjugated to a variety of substrates, such as polynucleotides, nucleosides, nucleotides, peptides, proteins, antibodies, carbohydrates, ligands, particles and surfaces.

09567863

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 7 OF 34 USPATFULL
AN 2002:265850 USPATFULL
TI Electrophoretic tag reagents comprising fluorescent compounds
IN Matray, Tracy, San Lorenzo, CA, UNITED STATES
Hernandez, Vincent, Brookdale, CA, UNITED STATES
Singh, Sharat, San Jose, CA, UNITED STATES
PA Aclara BioSciences, Inc. (U.S. corporation)
PI US 2002146726 A1 20021010
AI US 2001-8495 A1 20011109 (10)
RLI Continuation-in-part of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING Continuation-in-part of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING Continuation-in-part of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING Continuation-in-part of Ser. No. US 2000-561579, filed on 28 Apr 2000, ABANDONED Continuation-in-part of Ser. No. US 1999-303029, filed on 30 Apr 1999, GRANTED, Pat. No. US 6322980
DT Utility
FS APPLICATION
LREP PERKINS COIE LLP, P.O. BOX 2168, MENLO PARK, CA, 94026
CLMN Number of Claims: 52
ECL Exemplary Claim: 1
DRWN 7 Drawing Page(s)
LN.CNT 2991
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Electrophoretic probes comprising fluorescent compounds as detection groups and **mobility modifiers** are disclosed for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. In one embodiment, detection involves the release of identifying tags as a consequence of target recognition. Target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters. Typically, uncleaved or partially cleaved e-tag probes are removed and the mixture of e-tag reporters is separated by any technique that provides for separation by mass or mass to charge ratio and the like and detected to provide for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 8 OF 34 USPATFULL
AN 2002:258759 USPATFULL
TI Compositions and methods employing cleavable electrophoretic tag reagents
IN Matray, Tracy, San Lorenzo, CA, UNITED STATES
Hernandez, Vincent, Brookdale, CA, UNITED STATES
Singh, Sharat, San Jose, CA, UNITED STATES
PA Aclara BioSciences, Inc. (U.S. corporation)
PI US 2002142329 A1 20021003
AI US 2001-8573 A1 20011109 (10)
RLI Continuation-in-part of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING Continuation-in-part of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING Continuation-in-part of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING Continuation-in-part of Ser. No. US 2000-561579, filed on 28 Apr 2000, ABANDONED Continuation-in-part of Ser. No. US 1999-303029, filed on 30 Apr 1999, GRANTED, Pat. No. US 6322980
DT Utility
FS APPLICATION
LREP PERKINS COIE LLP, P.O. BOX 2168, MENLO PARK, CA, 94026
CLMN Number of Claims: 71
ECL Exemplary Claim: 1
DRWN 9 Drawing Page(s)

09567863

LN.CNT 3249
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Probe sets for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. Detection involves the release of identifying tags as a consequence of target recognition. The probe sets include electrophoretic tag probes or e-tag probes, comprising a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. Target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters and uncleaved and/or partially cleaved e-tag probes. The mixture is exposed to a capture agent effective to bind to uncleaved or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification. The methods employ compositions comprising luminescent molecules such as, for example, fluorescent molecules, which are modified to provide for electrophoretic properties that differ for each modified luminescent molecule while maintaining substantially the same absorption, emission and quantum yield properties of the original luminescent molecule. The compositions may be cleavably linked to binding molecules to form the e-tag probes.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 9 OF 34 USPATFULL
AN 2002:231094 USPATFULL
TI Atropisomers of asymmetric xanthene fluorescent dyes and methods of DNA sequencing and fragment analysis
IN Lee, Linda G., Palo Alto, CA, United States
Taing, Meng C., San Mateo, CA, United States
Rosenblum, Barnett B., San Jose, CA, United States
PA PE Corporation (NY), Foster City, CA, United States (U.S. corporation)
PI US 6448407 B1 20020910
AI US 2000-704966 20001101 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Davis, Zinna Northington
LREP Andrus, Alex
CLMN Number of Claims: 57
ECL Exemplary Claim: 1
DRWN 21 Drawing Figure(s); 21 Drawing Page(s)
LN.CNT 2083
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Substantially pure atropisomers of xanthene compounds are disclosed. A variety of molecular biology applications utilize atropisomeric xanthene fluorescent dyes as **labels** for substrates such as nucleotides, nucleosides, polynucleotides, polypeptides and carbohydrates. Methods include DNA sequencing, DNA fragment analysis, PCR, SNP analysis, **oligonucleotide** ligation, amplification, minisequencing, and primer extension.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 10 OF 34 USPATFULL
AN 2002:171867 USPATFULL
TI Sets of generalized target-binding e-tag probes
IN Singh, Sharat, San Jose, CA, UNITED STATES
Matray, Tracy, San Lorenzo, CA, UNITED STATES
Chenna, Ahmed, Sunnyvale, CA, UNITED STATES
PI US 2002090616 A1 20020711

09567863

AI US 2001-825244 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, GRANTED, Pat. No. US 6322980 Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, ABANDONED Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION
LREP PERKINS COIE LLP, P.O. BOX 2168, MENLO PARK, CA, 94026
CLMN Number of Claims: 20
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4208
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Probe sets for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. Detection involves the release of identifying tags as a consequence of target recognition. The probe sets include electrophoretic tag probes or e-tag probes, comprising a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. Target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters and uncleaved and/or partially cleaved e-tag probes. The mixture is exposed to a capture agent effective to bind to uncleaved or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 11 OF 34 USPATFULL
AN 2002:122435 USPATFULL
TI Probe/**mobility modifier** complexes for multiplexnucleic acid detection
IN Grossman, Paul D., Foster City, CA, United States
PA Applera Corporation, Foster City, CA, United States (U.S. corporation)
PI US 6395486 B1 20020528
AI US 2000-522640 20000310 (9)
PRAI US 1999-124386P 19990315 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Einsmann, Juliet C.
LREP Grossman, Paul D.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1000
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions and methods for the analysis of multiple nucleic acid target sequences are disclosed. The compositions comprise a probe comprising a target-specific portion for sequence-specific hybridization to a target nucleic acid sequence, and a tag; and a **mobility-modifier** comprising a tail and a tag complement for binding to the tag. The associated methods generally comprise the steps of providing a sample potentially containing one or more target nucleic acid sequences; providing one or more probes, each probe comprising a target-specific portion and a tag; providing one or more **mobility modifiers**, each **mobility modifier** comprising a tag complement and a tail; contacting the

probe(s) and the target nucleic acid sequence(s) under conditions effective for sequence-dependent hybridization of the probe(s) and the target nucleic acid sequence(s); contacting the probe(s) and the **mobility-modifier**(s) under conditions suitable for selectively binding the probe(s) to the **mobility modifier**(s), thereby forming one or more a probe/**mobility modifier** complex(s); and analyzing the probe/**mobility modifier** complex(s) using a mobility-dependent analysis technique.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 12 OF 34 USPATFULL
AN 2002:112528 USPATFULL
TI Generalized target-binding e-tag probe compositions
IN Singh, Sharat, San Jose, CA, UNITED STATES
Salimi-Moosavi, Hossein, Sunnyvale, CA, UNITED STATES
Xiao, Vivian, Cupertino, CA, UNITED STATES
PI US 2002058263 A1 20020516
AI US 2001-824861 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, UNKNOWN
DT Utility
FS APPLICATION
LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4113
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. The compositions include one or more uncleaved or partially cleaved electrophoretic tag (e-tag) probes from a set of e-tag probes, at least one e-tag reporter out of a possible set of e-tag reporters and a capture agent. Detection involves the release of identifying tags as a consequence of target recognition. The e-tag probes comprise a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. Target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters and uncleaved and/or partially cleaved e-tag probes. The mixture is exposed to a capture agent effective to bind to uncleaved or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 13 OF 34 USPATFULL
AN 2002:85692 USPATFULL
TI **Oligonucleotide**-binding e-tag probe compositions
IN Singh, Sharat, San Jose, CA, UNITED STATES
Tian, Huan, Los Altos, CA, UNITED STATES
PI US 2002045738 A1 20020418
AI US 2001-825245 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility

09567863

FS APPLICATION
LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4184
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Compositions for the multiplexed detection of known, selected nucleotide target sequences are provided. The compositions include one or more uncleaved or partially cleaved electrophoretic tag (e-tag) probes from a set of e-tag probes, at least one e-tag reporter out of a possible set of e-tag reporters and a capture agent. The e-tag probes comprise a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. Detection involves the release of identifying tags as a consequence of target recognition. The target-binding moiety of the e-tag probes hybridizes to complementary target sequences followed by nuclease cleavage of the e-tag probes and release of detectable e-tags or e-tag reporters. The mixture is exposed to a capture agent which binds uncleaved and/or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 14 OF 34 USPATFULL
AN 2002:57543 USPATFULL
TI Methods for external controls for nucleic acid amplification
IN Heid, Christian A., San Mateo, CA, United States
Livak, Kenneth J., San Jose, CA, United States
PA PE Corporation (NY), Foster City, CA, United States (U.S. corporation)
PI US 6358679 B1 20020319
AI US 2000-645959 20000824 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Jones, W. Gary; Assistant Examiner: Tung, J.
LREP Andrus, Alex
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 8 Drawing Page(s)
LN.CNT 1219
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods of nucleic acid amplification with external controls are provided that verify the absence or presence of specific target sequences, and correct primers and probes. A single-stranded, external control polynucleotide is amplified with primers of the same sequence as target primers. Probes with detectable **labels** and sequences specific for target and external control polynucleotides allow for detection and measurement. The primers and the detectable probe are adjacent or substantially adjacent when hybridized to the external control polynucleotide. Target and control amplicons may be detected by increased fluorescence induced by polymerase-mediated 5' nuclease cleavage or hybridization of a self-quenching probe complementary to both target and external control polynucleotides. A kit of PCR reagents can be dispensed into vessels for rapid and accurate nucleic acid amplification assay, with real-time or end-point measurements. The amplification control reagents, kits, and methods of the present invention provide positive and negative control tests which can be conducted concurrently with target amplification. Allelic differences at genetic loci can be detected, including single nucleotide polymorphisms

(SNP).

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 15 OF 34 USPATFULL
AN 2002:45468 USPATFULL
TI **Oligonucleotide** tags for sorting and identification
IN Brenner, Sydney, Cambridge, UNITED KINGDOM
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6352828 B1 20020305
AI US 1998-53116 19980401 (9)
RLI Division of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 Continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
DT Utility
FS GRANTED
EXNAM Primary Examiner: Yucel, Remy; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2352
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 16 OF 34 USPATFULL
AN 2002:27108 USPATFULL
TI Sets of **oligonucleotide**-binding e-tag probes
IN Singh, Sharat, San Jose, CA, UNITED STATES
Matray, Tracy, San Lorenzo, CA, UNITED STATES
Chenna, Ahmed, Sunnyvale, CA, UNITED STATES
PI US 2002015954 A1 20020207
AI US 2001-825246 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION

09567863

LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 15
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4140
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Probe sets for the multiplexed detection of known, selected nucleotide target sequences are provided. Detection involves the release of identifying tags as a consequence of target recognition. The probe sets include electrophoretic tag probes or "e-tag probes", comprising a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. The target-binding moiety of the e-tag probes hybridizes to complementary target sequences followed by nuclease cleavage of the e-tag probes and release of detectable e-tags or e-tag reporters. The mixture is exposed to a capture agent which binds uncleaved and/or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 17 OF 34 USPATFULL
AN 2002:16857 USPATFULL
TI Kits employing **oligonucleotide**-binding e-tag probes
IN Singh, Sharat, San Jose, CA, UNITED STATES
Matray, Tracy, San Lorenzo, CA, UNITED STATES
Chenna, Ahmed, Sunnyvale, CA, UNITED STATES
PI US 2002009737 A1 20020124
AI US 2001-824905 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION
LREP Iota Pi Law Group, P.O. Box 60850, Palo Alto, CA, 94306-0850
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4157
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Kits for the multiplexed detection of known, selected nucleotide target sequences are provided. Detection involves the release of identifying tags as a consequence of target recognition. The kits include sets of electrophoretic tag probes or e-tag probes, capture agent and optionally a nuclease. The e-tag probes comprise a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. In using the kits, the target-binding moiety of the e-tag probes hybridizes to complementary target sequences followed by nuclease cleavage of the e-tag probes and release of detectable e-tags or e-tag reporters. The mixture is exposed to a capture agent which binds uncleaved and/or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 18 OF 34 USPATFULL

09567863

AN 2002:3833 USPATFULL
TI Methods employing **oligonucleotide**-binding e-tag probes
IN Singh, Sharat, San Jose, CA, UNITED STATES
Tian, Huan, Los Altos, CA, UNITED STATES
PI US 2002001808 A1 20020103
AI US 2001-825247 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION
LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4155
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods for the multiplexed detection of known, selected nucleotide target sequences are provided. Detection involves the release of identifying tags as a consequence of target recognition. The methods include the use of electrophoretic tag probes or e-tag probes, comprising a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. In practicing the methods, the target-binding moiety of the e-tag probes hybridizes to complementary target sequences followed by nuclease cleavage of the e-tag probes and release of detectable e-tags or e-tag reporters. The mixture is exposed to a capture agent which binds uncleaved and/or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 19 OF 34 USPATFULL
AN 2001:229389 USPATFULL
TI Kits employing generalized target-binding e-tag probes
IN Singh, Sharat, San Jose, CA, United States
Matray, Tracy, San Lorenzo, CA, United States
Chenna, Ahmed, Sunnyvale, CA, United States
PI US 2001051340 A1 20011213
AI US 2001-824851 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION
LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4110
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Kits for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. Detection involves the release of identifying tags as a consequence of

target recognition. The kits include sets of electrophoretic tag probes or e-tag probes, a capture agent and optionally a cleaving agent. The e-tag probes comprise a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. In using the kits, target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters and uncleaved and/or partially cleaved e-tag probes. The mixture is exposed to a capture agent effective to bind to uncleaved or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 20 OF 34 USPATFULL
AN 2001:223888 USPATFULL
TI Methods employing generalized target-binding e-tag probes
IN Singh, Sharat, San Jose, CA, United States
Salimi-Moosavi, Hossein, Sunnyvale, CA, United States
Xiao, Vivian, Cupertino, CA, United States
PI US 2001049105 A1 20011206
AI US 2001-824984 A1 20010402 (9)
RLI Continuation of Ser. No. US 1999-303029, filed on 30 Apr 1999, PENDING
Continuation of Ser. No. US 2000-561579, filed on 28 Apr 2000, PENDING
Continuation of Ser. No. US 2000-602586, filed on 21 Jun 2000, PENDING
Continuation of Ser. No. US 2000-684386, filed on 4 Oct 2000, PENDING
Continuation of Ser. No. US 2000-698846, filed on 27 Oct 2000, PENDING
DT Utility
FS APPLICATION
LREP IOTA PI LAW GROUP, 350 CAMBRIDGE AVENUE SUITE 250, P O BOX 60850, PALO ALTO, CA, 94306-0850
CLMN Number of Claims: 4
ECL Exemplary Claim: 1
DRWN 45 Drawing Page(s)
LN.CNT 4138
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Methods for the multiplexed detection of the binding of, or interaction between, one or more ligands and target antiligands are provided. Detection involves the release of identifying tags as a consequence of target recognition. The methods include the use of electrophoretic tag probes or e-tag probes, comprising a detection region and a mobility-defining region called the **mobility modifier**, both linked to a target-binding moiety. In practicing the methods, target antiligands are contacted with a set of e-tag probes and the contacted antiligands are treated with a selected cleaving agent resulting in a mixture of e-tag reporters and uncleaved and/or partially cleaved e-tag probes. The mixture is exposed to a capture agent effective to bind to uncleaved or partially cleaved e-tag probes, followed by electrophoretic separation. In a multiplexed assay, different released e-tag reporters may be separated and detected providing for target identification.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 21 OF 34 USPATFULL
AN 2001:202419 USPATFULL
TI Polymerase extension at 3' terminus of PNA-DNA chimera
IN Egholm, Michael, Wayland, MA, United States
Chen, Caifu, Brookline, MA, United States
PA Applera Corporation, Foster City, CA, United States (U.S. corporation)
PI US 6316230 B1 20011113

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AI US 1999-373845 19990813 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Andrus, Alex
CLMN Number of Claims: 43
ECL Exemplary Claim: 1
DRWN 20 Drawing Figure(s); 17 Drawing Page(s)
LN.CNT 1634
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides methods and a kit for primer extension of PNA-DNA chimera from template nucleic acids using polymerases, nucleotide 5'-triphosphates, and primer extension reagents. Structural requirements of the chimera for primer extension include 5 to 15 contiguous PNA monomer units, 3 or more contiguous nucleotides, and a 3' hydroxyl terminus. The chimera and/or a nucleotide is **labelled** with fluorescent dyes or other **labels**. The methods include DNA sequencing, DNA fragment analysis, reverse transcription, mini-sequencing, chromosome **labelling**, amplification, and single nucleotide polymorphism (SNP) detection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 22 OF 34 USPATFULL
AN 2001:188402 USPATFULL
TI Method of detecting an analyte in a sample using semiconductor nanocrystals as a detectable **label**
IN Bruchez, Marcel P., Union City, CA, United States
Daniels, R. Hugh, Palo Alto, CA, United States
Empedocles, Stephen A., Mountain View, CA, United States
Phillips, Vince E., Sunnyvale, CA, United States
Wong, Edith Y., Danville, CA, United States
Zehnder, Donald A., San Carlos, CA, United States
PA Quantum Dot Corporation (U.S. corporation)
PI US 2001034034 A1 20011025
AI US 2001-887914 A1 20010621 (9)
RLI Continuation of Ser. No. US 2000-566014, filed on 5 May 2000, GRANTED, Pat. No. US 6274323
PRAI US 1999-133084P 19990507 (60)
DT Utility
FS APPLICATION
LREP ROBINS & PASTERNAK LLP, Suite 200, 90 Middlefield Road, Menlo Park, CA, 94025
CLMN Number of Claims: 45
ECL Exemplary Claim: 1
DRWN 6 Drawing Page(s)
LN.CNT 3459
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The use of semiconductor nanocrystals as detectable **labels** in various chemical and biological applications is disclosed. The methods find use for detecting a single analyte, as well as multiple analytes by using more than one semiconductor nanocrystal as a detectable **label**, each of which emits at a distinct wavelength.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 23 OF 34 USPATFULL
AN 2001:167904 USPATFULL
TI Template-dependent ligation with PNA-DNA chimeric probes
IN Egholm, Michael, Wayland, MA, United States
Chen, Caifu, Brookline, MA, United States
PA Applera Corporation, Foster City, CA, United States (U.S. corporation)

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PI US 6297016 B1 20011002
AI US 1999-416003 19991008 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Riley, Jezia
LREP Andrus, Alex
CLMN Number of Claims: 39
ECL Exemplary Claim: 1
DRWN 21 Drawing Figure(s); 19 Drawing Page(s)
LN.CNT 1454
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides methods, kits, and compositions for ligation of PNA-DNA chimeric probes and **oligonucleotides** when they are hybridized adjacently to template nucleic acids using ligases and ligation reagents. Structural requirements of the chimeras for ligation include 5 to 15 contiguous PNA monomer units, 2 or more contiguous nucleotides, and a 3' hydroxyl or 5' hydroxyl terminus. The chimera and/or **oligonucleotide** may be **labelled** with fluorescent dyes or other **labels**. The methods include, for example, **oligonucleotide**-ligation assays (OLA) and single nucleotide polymorphism detection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 24 OF 34 USPATFULL
AN 2001:142078 USPATFULL
TI Method of detecting the presence or absence of a plurality of target sequences using **oligonucleotide** tags
IN Macevicz, Stephen C., Cupertino, CA, United States
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6280935 B1 20010828
AI US 1998-90809 19980604 (9)
RLI Division of Ser. No. US 659453, now patented, Pat. No. US 5846719 Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 Continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
PRAI WO 1995-US12791 19951012
DT Utility
FS GRANTED
EXNAM Primary Examiner: Yucel, Remy L.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 6
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2413
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel

operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 25 OF 34 USPATFULL
AN 2001:131043 USPATFULL
TI Method of detecting an analyte in a sample using semiconductor nanocrystals as a detectable **label**
IN Bruchez, Marcel P., Union City, CA, United States
Daniels, R. Hugh, Palo Alto, CA, United States
Empedocles, Stephen A., Mountain View, CA, United States
Phillips, Vince E., Sunnyvale, CA, United States
Wong, Edith Y., Danville, CA, United States
Zehnder, Donald A., San Carlos, CA, United States
PA Quantum Dot Corporation, Palo Alto, CA, United States (U.S. corporation)
PI US 6274323 B1 20010814
AI US 2000-566014 20000505 (9)
PRAI US 1999-133084P 19990507 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Horlick, Kenneth R.; Assistant Examiner: Strzelecka, Teresa
LREP Robins & Pasternak LLP
CLMN Number of Claims: 40
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 6 Drawing Page(s)
LN.CNT 3429
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The use of semiconductor nanocrystals as detectable **labels** in various chemical and biological applications is disclosed. The methods find use for detecting a single analyte, as well as multiple analytes by using more than one semiconductor nanocrystal as a detectable **label**, each of which emits at a distinct wavelength.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 26 OF 34 USPATFULL
AN 2001:75128 USPATFULL
TI **Oligonucleotide** tags for sorting and identification
IN Brenner, Sydney, Cambridge, United Kingdom
Albrecht, Glenn, Redwood City, CA, United States
Macevicz, Stephen C., Cupertino, CA, United States
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6235475 B1 20010522
AI US 1998-130862 19980807 (9)
RLI Division of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 Continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned Continuation of Ser. No. WO 1995-US12791, filed on 12 Oct 1995
DT Utility
FS Granted
EXNAM Primary Examiner: Schwartzman, Robert A.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2443

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 27 OF 34 USPATFULL
AN 2001:4892 USPATFULL
TI **Oligonucleotide** tags for sorting and identification
IN Brenner, Sydney, Cambridge, United Kingdom
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6172218 B1 20010109
AI US 1998-92226 19980605 (9)
RLI Division of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 Continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
DT Patent
FS Granted
EXNAM Primary Examiner: Schwartzman, Robert A.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2458
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and

the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 28 OF 34 USPATFULL
AN 2001:4888 USPATFULL
TI **Oligonucleotide** tags for sorting and identification
IN Brenner, Sydney, Cambridge, United Kingdom
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6172214 B1 20010109
AI US 1998-131009 19980807 (9)
RLI Division of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 Continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
DT Patent
FS Granted
EXNAM Primary Examiner: Schwartzman, Robert A.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 13
ECL Exemplary Claim: 2
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2471
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 29 OF 34 USPATFULL
AN 2000:157565 USPATFULL
TI Kits for sorting and identifying polynucleotides
IN Brenner, Sydney, Cambridge, United Kingdom
Albrecht, Glenn, Redwood City, CA, United States
Macevicz, Stephen C., Cupertino, CA, United States
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6150516 20001121
AI US 1998-196543 19981120 (9)
RLI Continuation of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 which is a continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 which is a continuation-in-part of Ser. No. US 1994-322348,

filed on 13 Oct 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Schwartzman, Robert A.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 16
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2569
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit.

An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 30 OF 34 USPATFULL
AN 2000:143643 USPATFULL
TI Method, apparatus and computer program product for determining a set of non-hybridizing **oligonucleotides**
IN Brenner, Sydney, Cambridge, United Kingdom
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 6138077 20001024
AI US 1998-89853 19980603 (9)
RLI Division of Ser. No. US 1996-659453, filed on 6 Jun 1996, now patented, Pat. No. US 5846719 which is a continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 which is a continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Brusca, John S.; Assistant Examiner: Shibuya, Mark L.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 5
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2657
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a computerized method, associated apparatus, and computer program product for determining a set of non-hybridizing **oligonucleotides**. The invention represents a first **oligonucleotide** in the computer's memory, generates a set of **oligonucleotides**, including the first **oligonucleotide**,

that meet a specified condition that determines whether the generated **oligonucleotides** will not hybridize with the first **oligonucleotide**. The invention also examines each of the generated **oligonucleotides** in the set to remove **oligonucleotides** from the set that hybridize with other nucleotides in the set. Thus, the invention develops a minimally cross-hybridizing set of **oligonucleotides** that can be used for tracking, identifying, and/or sorting classes or subpopulations of molecules by the user of **oligonucleotide** tags.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 31 OF 34 USPATFULL
AN 2000:134740 USPATFULL
TI Coupled amplification and ligation method
IN Eggerding, Faye, San Francisco, CA, United States
PA Perkin-Elmer Corp., Applied Biosystems Division, Foster City, CA, United States (U.S. corporation)
PI US 6130073 20001010
AI US 1999-251565 19990217 (9)
RLI Continuation of Ser. No. US 1996-975902, filed on 19 Sep 1996, now patented, Pat. No. US 5912148 which is a continuation-in-part of Ser. No. US 1994-292686, filed on 19 Aug 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sisson, Bradley L.
LREP Weitz, David J.Wilson Sonsini Goodrich & Rosati
CLMN Number of Claims: 28
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1461
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method based on polymerase chain reaction (PCR) amplification and **oligonucleotide** ligase assay (OLA) reaction is provided for analyzing complex genetic systems in a single reaction vessel. The method involves simultaneously incubating a sample containing one or more target polynucleotides with PCR primers and OLA probes in a single reaction mixture. The presence of variant polynucleotide sequences in the sample is determined by detecting and identifying the products of the OLA reaction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 32 OF 34 USPATFULL
AN 1999:85257 USPATFULL
TI Process for direct sequencing during template amplification
IN Koster, Hubert, Concord, MA, United States
Van Den Boom, Dirk, Dreieich, Germany, Federal Republic of
Ruppert, Andreas, Linden, Germany, Federal Republic of
PA Sequenom, Inc., San Diego, CA, United States (U.S. corporation)
PI US 5928906 19990727
AI US 1996-647368 19960509 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Horlick, Kenneth R.; Assistant Examiner: Tung, Joyce
LREP Arnold, Beth E.Foley, Hoag & Eliot LLP
CLMN Number of Claims: 48
ECL Exemplary Claim: 1,17
DRWN 2 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 992
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Processes and kits for simultaneously amplifying and sequencing nucleic

acid molecules, and perfonning high throughput DNA sequencing are described.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 33 OF 34 USPATFULL
AN 1999:67167 USPATFULL
TI Coupled amplification and ligation method
IN Eggerding, Faye, San Francisco, CA, United States
PA Perkin-Elmer Corporation Applied Biosystems, Foster City, CA, United States (U.S. corporation)
PI US 5912148 19990615
AI US 1996-975902 19960919 (8)
RLI Continuation of Ser. No. US 1994-292686, filed on 19 Aug 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Sisson, Bradley L.
LREP Wilson Sonsini Goodrich & Rosati
CLMN Number of Claims: 34
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 2 Drawing Page(s)
LN.CNT 1449
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A method based on polymerase chain reaction (PCR) amplification and **oligonucleotide** ligase assay (OLA) reaction is provided for analyzing complex genetic systems in a single reaction vessel. The method involves simultaneously incubating a sample containing one or more target polynucleotides with PCR primers and OLA probes in a single reaction mixture. The presence of variant polynucleotide sequences in the sample is determined by detecting and identifying the products of the OLA reaction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L6 ANSWER 34 OF 34 USPATFULL
AN 1998:154037 USPATFULL
TI **Oligonucleotide** tags for sorting and identification
IN Brenner, Sydney, Cambridge, England
Albrecht, Glenn, Redwood City, CA, United States
Macevicz, Stephen C., Cupertino, CA, United States
PA Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)
PI US 5846719 19981208
AI US 1996-659453 19960606 (8)
RLI Continuation-in-part of Ser. No. US 1994-358810, filed on 19 Dec 1994, now patented, Pat. No. US 5604097 which is a continuation-in-part of Ser. No. US 1994-322348, filed on 13 Oct 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Chambers, Jasemine C.; Assistant Examiner: Priebe, Scott D.
LREP Macevicz, Stephen C.
CLMN Number of Claims: 33
ECL Exemplary Claim: 1,13
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 2453
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB The invention provides a method of tracking, identifying, and/or sorting classes or subpopulations of molecules by the use of **oligonucleotide** tags. **Oligonucleotide** tags of the invention comprise **oligonucleotides** selected from a minimally cross-hybridizing set. Preferably, such **oligonucleotides** each

consist of a plurality of subunits 3 to 9 nucleotides in length. A subunit of a minimally cross-hybridizing set forms a duplex or triplex having two or more mismatches with the complement of any other subunit of the same set. The number of **oligonucleotide** tags available in a particular embodiment depends on the number of subunits per tag and on the length of the subunit. An important aspect of the invention is the use of the **oligonucleotide** tags for sorting polynucleotides by specifically hybridizing tags attached to the polynucleotides to their complements on solid phase supports. This embodiment provides a readily automated system for manipulating and sorting polynucleotides, particularly useful in large-scale parallel operations, such as large-scale DNA sequencing, mRNA fingerprinting, and the like, wherein many target polynucleotides or many segments of a single target polynucleotide are sequenced simultaneously.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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